

REMARKS

Claims 19-20 have been canceled without prejudice or disclaimer. The applicant reserves the right to pursue these claims, or other claims supported by the specification, in one or more continuing applications. Cancellation of claims 19-20 obviates the rejection for indefiniteness.

Claims 1-18 remain in the application.

All claims have been rejected as being obvious over U.S. Patent Publication 2002/0066011 to Vialen in view of U.S. Patent 7,155,244 to Edge. This rejection is traversed.

The invention uses positional information of the terminal to provide timing advance information to the terminal in a manner which leads to a faster handover procedure and reduced signaling requirements. Page 6 of the application explains that the level of positional accuracy employed in location services with mobile terminals exceeds the required timing advance accuracy. Therefore, the invention uses the accuracy inherent in the positional data to calculate the timing advance. As indicated in the last paragraph of page 6, knowledge of the terminal position and the location of the Node B, and the new BSS associated with the radio access technology to which the terminal is to handover, is employed to calculate the timing advance value which is then signaled to the terminal as part of the HANDOVER FROM UTRAN command. Contrasting Figures 1 and 2 of the application, it can be seen that the multiple access bursts are avoided. As noted at the top of page 7, the SRNC obtains the position information prior to requesting handover to the GSM cell. This information is then passed via the CN to the new BSS and the new BSS is then arranged to signal the timing advance value to the terminal via the HANDOVER FROM UTRAN command.

Figure 3 shows the use of positional information in the invention. As explained on page 7 of the application, arrows 22, 24, and 26 show the delivery of positional information relating to terminal 10. A timing advance signal is calculated at the core network 16 based on position information and this is returned by way of

arrows 28 to the terminal 10. The receipt of the handover command signal, including the timing advance value, at the terminal 10 allows for the generation of a signal 30 from the terminal 10 confirming that the handover is complete and also within the appropriate timeslot to the new base station system associated with the GSM network.

Independent claim 1 requires

- handover from a first radio access technology to a second radio access technology for a mobile radio communication device within a mobile radio communications network; and
- employing positional data of the device within the network for determining said timing advance value

Similarly, independent claim 10 requires

- handover of a mobile radio communications device from the first radio access technology to the second radio access technology; and
- means for determining a timing advance value associated with the second radio access technology and wherein such means is arranged to employ positional data of the device within the network for determining the said timing advance value

Vialen and Edge do not have the required features noted above, and the combination of the references would not make the two required features obvious to one of ordinary skill in the art.

Vialen discloses a handover of a mobile station from a UTRAN system to a GSM system. A mobile station receives an inter-system handover command 406 from the UTRAN system, sends a handover access message, and receives a physical information message 408 from the GSM system in response. The physical information message 408 contains GSM timing advance information. Vialen discloses a handover of the mobile station from the UTRAN information. However, there is no mention made that a timing advance value is determined employing positional data of the mobile station. Thus, the feature of employing positional data of the device within the network for determining said timing advance value is completely absent from Vialen.

Edge discloses a method of providing precision common timing in a wireless

communications network using absolute time differences (ATD) between each mobile station and pairs of neighboring base stations. To derive an ATM, Edg discloses: (a) using a time difference between the mobile station and the two base stations which is measured during handover, and (b) using the position of any of the mobile stations. Edge describes the ATM being derived using mobile station position as being more accurate than that derived during handover. However, Edge makes not mention of using the mobile position data in the handover. Further, Edge does not disclose employing the positional data of the mobile station to determine a timing advance value, as is required in claims 1 and 10. Moreover, Edge does not teach or suggest use of mobile station position data in a handover of the mobile station between different radio access technologies.

As neither Vialen nor Edge show employing the positional data of the mobile station to determine a timing advance value, as is required in claims 1 and 10, none of claims 1-18 would be obvious over a combination of Vialen and Edge.

Furthermore, with particular reference to dependent claim 8, the statement in the office action that Vialen in view of Edge teaches wherein the timing advance value is included within the handover command as received by the device, is simply incorrect. The timing advance value is in the physical information 408, but not the handover command 406 in Figure 4 of Vialen. In paragraph [0015] of Vialen, it is described that an intersystem handover command 406 message includes channel information for the target GSM while a physical information messages contain only the GSM advance information.

In the prior art, the timing advance value is contained in the physical information (see top half of Figure 4 of the present application--see also Vialen at Figure 4 and paragraph [0015]). Claim 8 of the present application provides faster handover from UTRAN to GSM (see page 8 of the application).

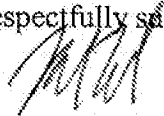
In view of the foregoing, it respectfully requested that the application be reconsidered, that claims 1-18 be allowed, and the application be passed to issue.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone

number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

A provisional petition is hereby made for any extension of time necessary for the continued pendency during the life of this application. Please charge any fees for such provisional petition and any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-2041.

Respectfully submitted,



Michael E. Whitham
Reg. No. 32,635

Whitham, Curtis, Christofferson & Cook, P.C.
11491 Sunset Hills Road, Suite 340
Reston, VA 20190

Tel. (703) 787-9400
Fax. (703) 787-7557

Customer No.: 30743